

REMARKS

As the previous Official Action, claims 12 and 17-18 are rejected as being unpatentable over Sarnecki (US Patent Application Publication 2003/0089252, hereafter '252) in view of Towns et al. (USP 6,153,711, hereafter '711) and Park et al. (USP 5,053,298, hereafter '298).

For the following reasons, the Applicant contends that currently amended claim 12 is both novel and non-obvious in view of the cited references. Reconsideration is respectfully requested.

1. The results of Examples and Comparative Examples can be generalized to the scope of amended claim 12:

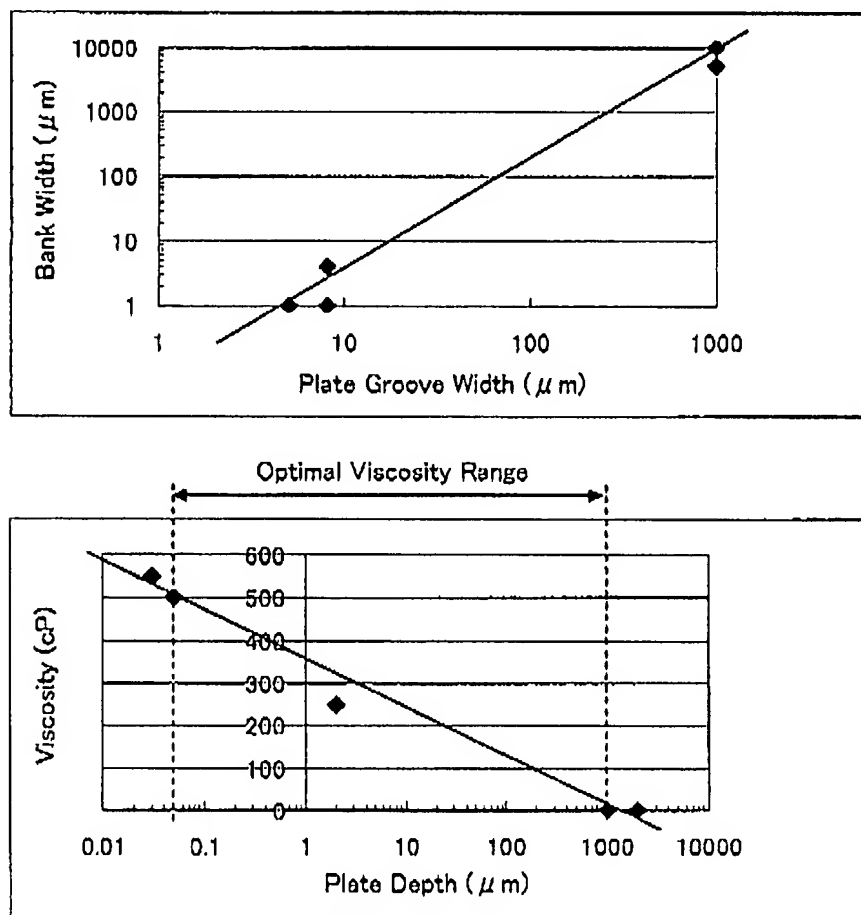
In "Response to Arguments" of the Official Action, the examiner insists that "The applicant argues on pg. 3 that the significance of the viscosity ranges can be understood from Examples 1-3 and Comparative Examples 1-2 in the present specification. However, the claims are not limited to the specific process parameters and specific materials used in the examples."

In Examples and Comparative Examples described in the present specification, parameters such as plate groove width, bank width and plate depth are determined based on the following two graphs, so as the film thickness of the formed film would be in a range of 100 Å to 2,000 Å. Moreover, in Examples and Comparative Examples, to make it easy to compare, the same material is used so that only the viscosity of the ink would be different.

In these Examples and Comparative Examples, a uniform film was obtained in Example 1-3 wherein the viscosity of the light emitting layer forming coating solution for forming the light emitting layer was "0.5 cP or more and 500 cP or less". However, even though each parameter was determined based on the same two graphs, in Comparative Examples 1-2, wherein

the viscosity of the light emitting layer forming coating solution was out of the above-mentioned range, a uniform film was not obtained.

The above-mentioned results indicate that the viscosity range “0.5 cP or more and 500 cP or less” can be applied when the above-mentioned parameters have a particular relationship (as shown in the following 2 graphs), but not when each of the parameter is in a certain range. Therefore, the results in Examples and Comparative Examples can be generalized to the scope of amended claim 12, without limiting the ranges of the parameters.



Further, concerning the materials used for the light emitting layer forming coating solution, as the examiner points out, the relationship between solid content and viscosity differ in

these materials, depending on their structures. However, the wetting and spreading ability of the light emitting layer forming coating solution depends on the viscosity thereof, contact angle thereof with the base material, and the amount thereof that is, plate depth. Therefore, the results in Examples and Comparative Examples can be generalized to the scope of amended claim 12, by specifying: the coating solution viscosity (0.5 cP or more and 500 cP or less); the contact angle with the base material (20° or less); and the depth of a groove or a cell of the intaglio (in a range of 500 Å to 1 mm). There is no need to limit the materials used for the coating solution.

For the new limitations added to amended claim 12, refer to: page 18, lines 23-25 of the specification for the film thickness range of the light emitting layer; and page 17, lines 16-18 for the contact angle range of the light emitting layer forming coating solution. No new matter is added.

2. In relation to disclosure of Towns (USP 6,153,711):

Based on the following, the examiner insists that Towns discloses the viscosity range of 1 cP to 200 cP that is used for an intaglio: Towns teaches that the viscosity-modified solution can be deposited by the desired coating technique (col. 7, lines 7-11); and although only spin coating, blade coating and ink-jet printing are exemplified in those cited lines, Towns previously teaches that reverse roll coating, meniscus coating, and coating/transfer coating methods are suitable coating techniques for solution-based processing.

Towns discloses reverse roll coating, meniscus coating, and coating/transfer coating methods together with spin coating, etc. (col. 1, lines 32-34) as conventional methods. In order to obtain a thin film by the ink-jet printing, by which conventional high viscosity ink was not used preferably, Towns discloses the viscosity range of 1 cP to 200 cP. Also, Towns exemplifies

spin coating, blade coating and ink-jet printing (col. 7, lines 7-11) for the methods suitable for such a low viscosity ink.

Although Towns exemplifies “reverse roll coating, meniscus coating, and coating/transfer coating methods” for the conventional printing methods on col. 1, lines 32-34, Towns does not include “reverse roll coating, meniscus coating, and coating/transfer coating methods” as examples for printing methods used for the ink having viscosity range of 1 cP to 200 cP. From these descriptions of the Towns, it is clear that Towns recognizes “reverse roll coating, meniscus coating, and coating/transfer coating methods” are not suitable for the methods using ink having viscosity range of 1 cP to 200 cP.

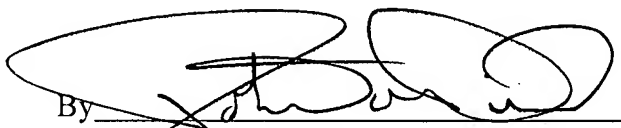
It is not appropriate to say that Towns discloses the viscosity range of 1 cP to 200 cP that is used for an intaglio, while Towns intentionally excludes “reverse roll coating, meniscus coating, and coating/transfer coating methods” from suitable method using ink having viscosity range of 1 cP to 200 cP.

CONCLUSION

Accordingly, Applicant believes all claims are now in condition for allowance. A notice to that effect is respectfully sought.

Should any informalities remain which may be addressed by Examiner amendments, the examiner is requested to contact by phone the undersigned attorney to expedite the prosecution of the present application.

Respectfully submitted,

A handwritten signature in black ink, appearing to read 'Robert W. Diehl', is written over a horizontal line. The signature is stylized with large loops and a prominent 'R'.

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